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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,456	10/27/2003	Ki-Cheol Lee	5000-1-472	2495
33942	7590	08/03/2007		
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			EXAMINER WANG, QUAN ZHEN	
			ART UNIT 2613	PAPER NUMBER
			MAIL DATE 08/03/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/694,456

Applicant(s)

LEE ET AL.

Examiner

Quan-Zhen Wang

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-8 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5, 13 and 15 is/are allowed.
- 6) ☒ Claim(s) 6-8 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 6 and 14 is withdrawn in view of the newly discovered reference(s) to Farmer et al. (U.S. Patent US 7,184,664 B2). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art figs. 1-2 (APA) in view of Farmer et al. (U.S. Patent US 7,184,664 B2).

Regarding claims 6 and 14, APA (figs. 1-2) discloses a Wavelength division multiplexing-passive optical network that transmits broadcast and communication data, the network comprising: an optical line terminal (figs. 1-2, OLT) to (1) receive a digital broadcast signal from a broadcasting network (figs. 1 and 2, broadcasting network) and

Art Unit: 2613

a first communication signal from an internet protocol network (figs. 1 and 2, IP network), and (2) transmit the digital broadcast signal and the first communication signal as optical signals (figs. 1-2, λ_1 - λ_{64}); an optical network terminal/optical network unit (fig. 1, element 12 and fig. 2, element 22) as a user-side device for transferring (1) the optical signals, from the optical line terminal, to a service user (not shown), and (2) user data from the service user to the optical line terminal; a first WDM demultiplexer (fig. 2, WDM 23) for WDM-demultiplexing the single broadcast/communication optical signals from the optical line terminal, and transferring it to the optical network terminal/optical network unit; and a first WDM multiplexer (fig. 2; WDM 24) for WDM-multiplexing the user data from the optical network terminal/optical network unit and transferring it to the optical line terminal; wherein the optical network terminal/optical network unit includes: a second optical receiver (fig. 1, receiver in ONT/ONU 12, not shown), for receiving an optical signal transmitted from the optical line terminal through the first WDM demultiplexer (fig. 1, WDM 13) and photoelectrically converting the received signal; a second optical transmitter (fig. 1, transmitter in ONT/ONU 12, not shown) for electro-optically converting an electrical signal to be optically modulated, and transmitting it to the first WDM multiplexer (fig. 1, WDM 14) of the purpose of transmitting it to the optical line terminal. The APA differs from the claimed invention in that the APA does not specifically disclose that the communication system further includes integrating broadcast signal and the communication signal as a single integrated optical signal and the user data includes channel-information data of a digital broadcast desired by the service user and the second communication signal; a communication/broadcast

Art Unit: 2613

demultiplexer for separating the single integrated optical signal, received through the second receiver into the first communication signal and the digital broadcast signal; a hub switch for forming the user data by joining together the channel-information data for selecting the digital broadcast signal desired by the service user and the second communication signal provided from the service user to the Internet protocol network. However, it is well known in the art to include integrating a broadcast signal and a communication signal to form a single integrated optical signal for transmission in an optical network; a communication/broadcast demultiplexer for separating the single integrated optical signal, received through the second receiver into the first communication signal and the digital broadcast signal; a hub switch for forming the user data by joining together the channel-information data for selecting the digital broadcast signal desired by the service user and the second communication signal provided from the service user to the Internet protocol network. For example, Farmer discloses a communication system (fig. 3) that includes integrating a broadcast signal (fig. 3, signal from internet router 340 targeting for "set top" in fig. 8) and a communication signal (fig. 3, signal from telephone switch 345) to form a single integrated optical signal (fig. 3, signal from optical transmitter 325) for transmission in an optical network; a communication/broadcast demultiplexer (fig. 8, processor 550) for separating the single integrated optical signal, received through a second receiver (fig. 8, optical receiver 540) into the first communication signal (fig. 8, signal to element 560) and the digital broadcast signal (fig. 8, signal to "set top" in element 555); a hub switch (fig. 8, element 513) for forming the user data by joining together the channel-information data for

Art Unit: 2613

selecting the digital broadcast signal desired by the service user (fig. 8, a selecting signal from set top in element 555) and the second communication signal (fig. 8, signal from element 560) provided from the service user to the Internet protocol network. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the signal integration method and the subscriber optical interface unit of Farmer in the system of APA in order to transmit both a broadcast signal and a communication signal to a user with the same optical transmitter; the optical line terminal is further enabled to transfer a second communication signal, received from the service user, to the Internet protocol network (fig. 2, ONT/ONU 32).

Regarding claim 7, APA further discloses that a single wavelength for optical transmission between the optical line terminal and the optical network terminal/optical network unit is assigned to each service user (fig. 1).

Regarding claim 8, the APA (fig. 1) further discloses that the optical line terminal further includes an optical amplifier for optically-modulating and amplifying an analog broadcast signal (inherent), and an optical coupler (inherent) for combining the analog broadcast optical signal, so as to receive and transmit the analog broadcast signal, the network further comprising: an optical splitter (fig. 1, splitter 15) for separating an optical signal, combined with the analog broadcast signal, from the optical line terminal into the analog broadcast signal and the single integrated optical signal, and transmitting the separated signals; a photoelectric converter (fig. 1, O/E 16) for photoelectrically converting the analog broadcast signal separated through the optical splitter; and a

Art Unit: 2613

radio frequency splitter (fig. 1, RF splitter 17) for distributing the photoelectrically-converted electrical analog broadcast signal to the optical network terminal/optical network unit.

Allowable Subject Matter

4. Claims 5, 13, and 15 are allowed.

Response to Arguments

5. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

qzw
7/31/2007



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